



ET-50-4000 Water Cooled Green Machine Engineering Drawings

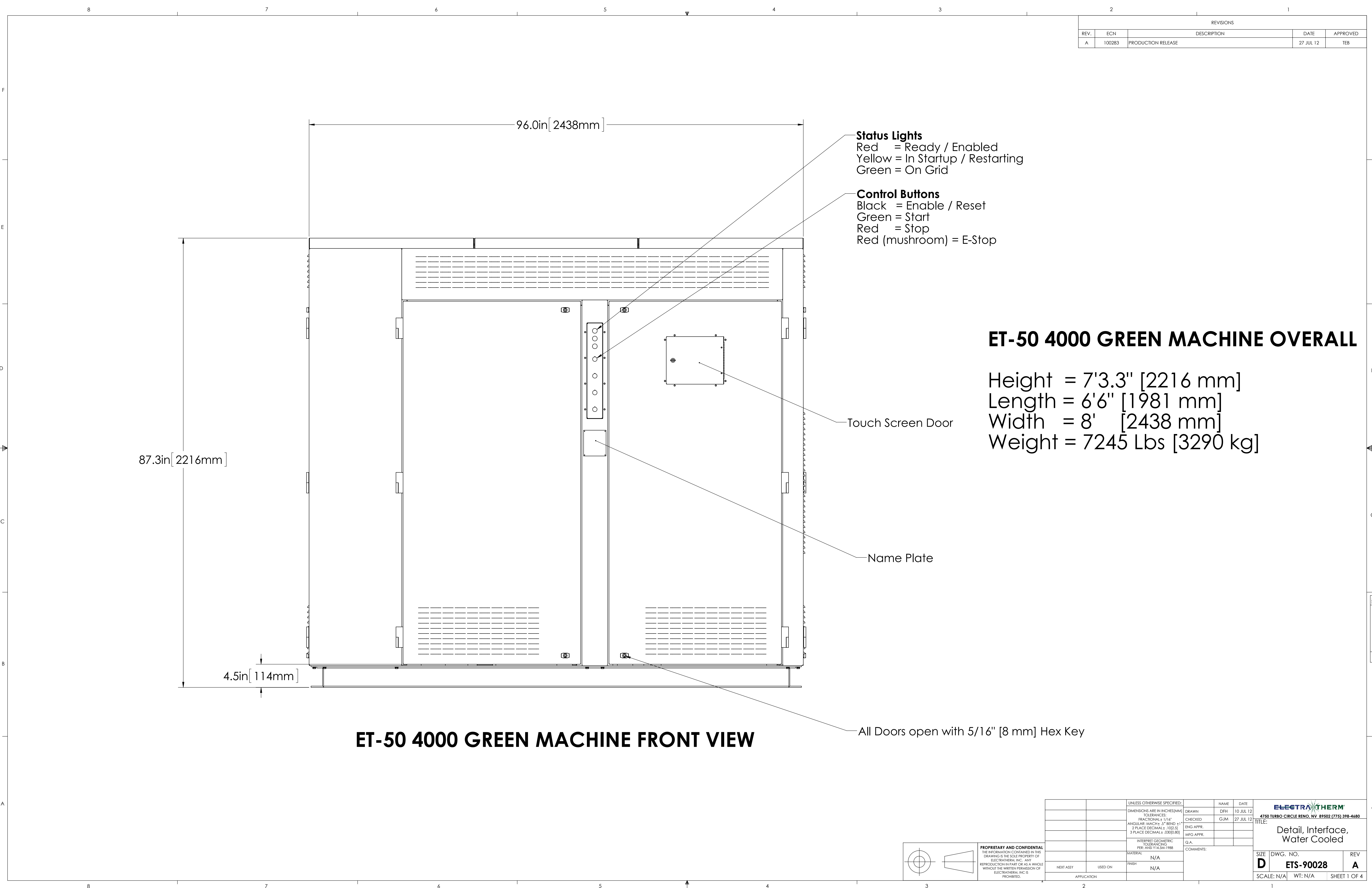
Table of Contents:

Drawing #	Drawing Title	# pages	Drawing description
ETS-90028	Detail, Interface, Water Cooled	4	Water Cooled Green Machine drawings
ETS-90016	Detail, Bypass, Hot Water	1	Hot Water Bypass Drawing
ETS-90018	Diagram, 1-Line, Intrcnct, Water Cooled	1	1 Line electrical interconnect drawing representative of typical water cooled Green Machine installation
ETS-90020	Diagram, Trmnl Strip, Interface, ET-50-4000	1	Terminal Strip Connection diagram for connecting Customer wiring connections to Green Machine
ETS-90079	Detail, Mounting, ET-50-4000	1	Green Machine Footprint drawing, with Green Machine weights for footing / concrete design

DRAWING REVISION: 20130826-01



Drawing #	Drawing Title	# pages
ETS-90028	Detail, Interface, Water Cooled	4

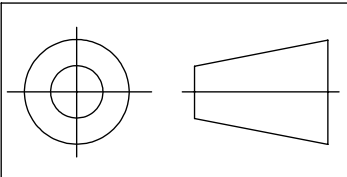


REVISIONS				
REV.	ECN	DESCRIPTION	DATE	APPROVED
A	100283	PRODUCTION RELEASE	27 JUL 12	TEB

ET-50 4000 GREEN MACHINE OVERALL

Height = 7'3.3" [2216 mm]
Length = 6'6" [1981 mm]
Width = 8' [2438 mm]
Weight = 7245 Lbs [3290 kg]

ET-50 4000 GREEN MACHINE FRONT VIEW



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REPRODUCTION IN PART OR AS A WHOLE
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		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES(MM) TOLERANCES: FRACTIONALS 1/16" ANGULARS: MACH ± .5° BEND ± 1° 2 PLACE DECIMAL ± .10(2.5) 3 PLACE DECIMALS .000(0.00)		NAME	DATE
			DRAWN	DFH	10 JUL 12
			CHECKED	GJM	27 JUL 12
			ENG APPR:		
			MFG APPR:		
		INTERPRET GEOMETRIC TOLERANCING PER: ANSI Y14.5M-1988		Q.A.	
		MATERIAL		COMMENTS:	
		N/A			
		N/A			
NEXT ASSY	USED ON	FINISH			
APPLICATION					



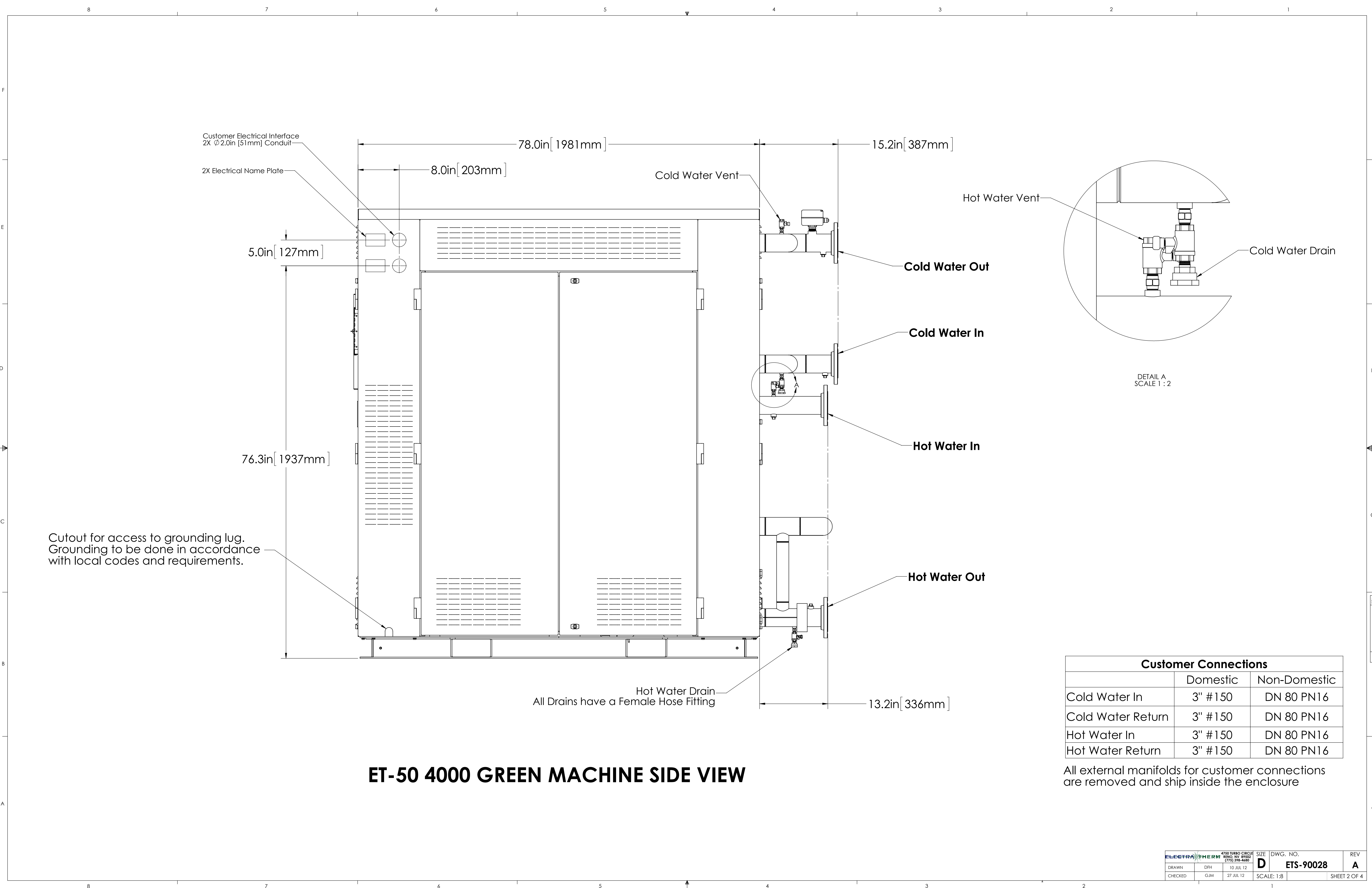
4750 TURBO CIRCLE RENO, NV 89502 (775) 398-4680

DETAIL:

Detail, Interface,
Water Cooled

SIZE	DWG. NO.	REV
D	ETS-90028	A
SCALE: N/A	WT: N/A	SHEET 1 OF 4

D4X50-W5-004



Customer Electrical Interface
2X Ø2.0in [51mm] Conduit

2X Electrical Name Plate

5.0in [127mm]

76.3in [1937mm]

Cutout for access to grounding lug.
Grounding to be done in accordance
with local codes and requirements.

Hot Water Drain
All Drains have a Female Hose Fitting

ET-50 4000 GREEN MACHINE SIDE VIEW

Cold Water Vent

Cold Water Out

Cold Water In

Hot Water In

Hot Water Out

Hot Water Vent

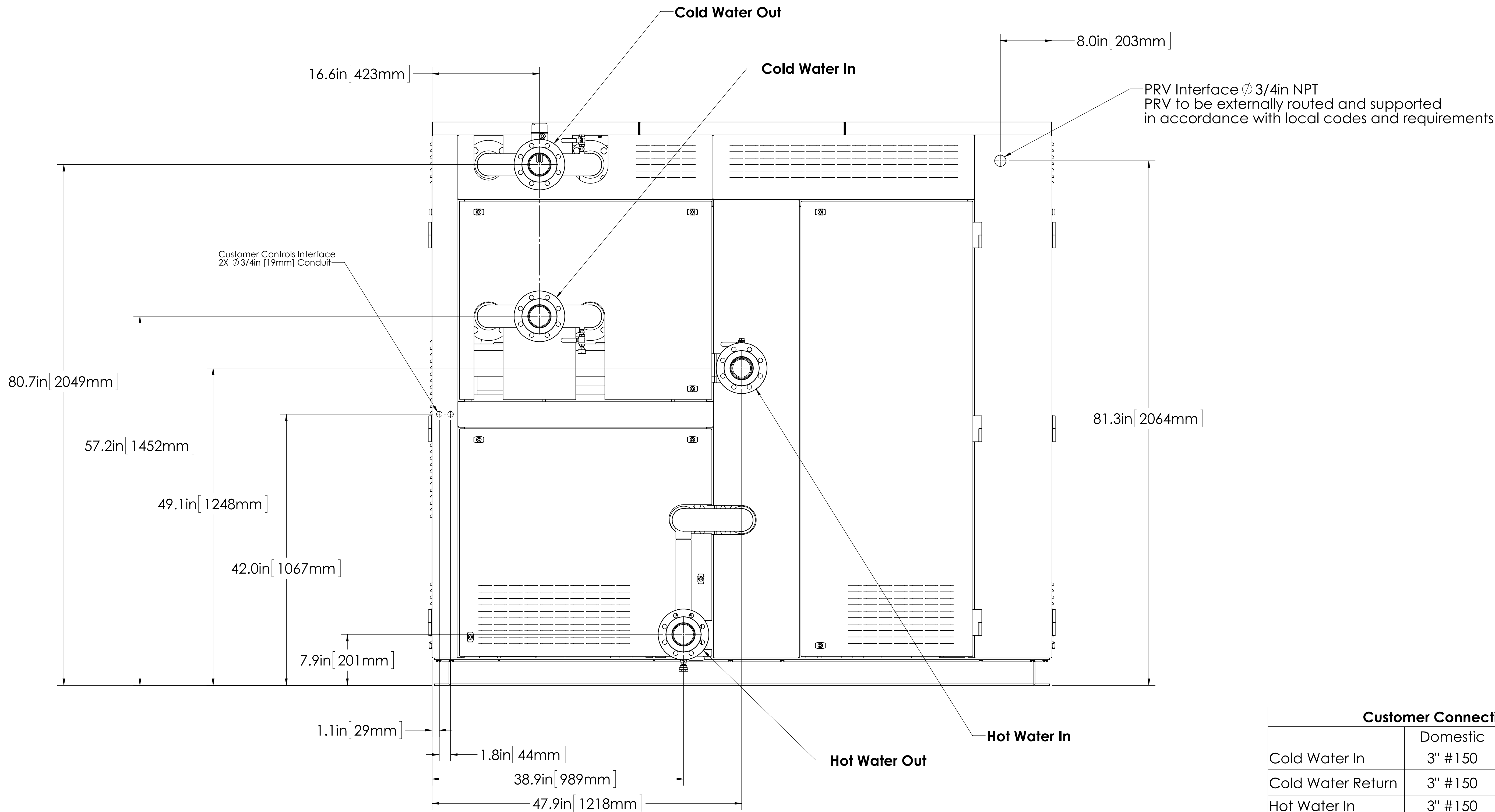
Cold Water Drain

DETAIL A
SCALE 1 : 2

Customer Connections

	Domestic	Non-Domestic
Cold Water In	3" #150	DN 80 PN16
Cold Water Return	3" #150	DN 80 PN16
Hot Water In	3" #150	DN 80 PN16
Hot Water Return	3" #150	DN 80 PN16

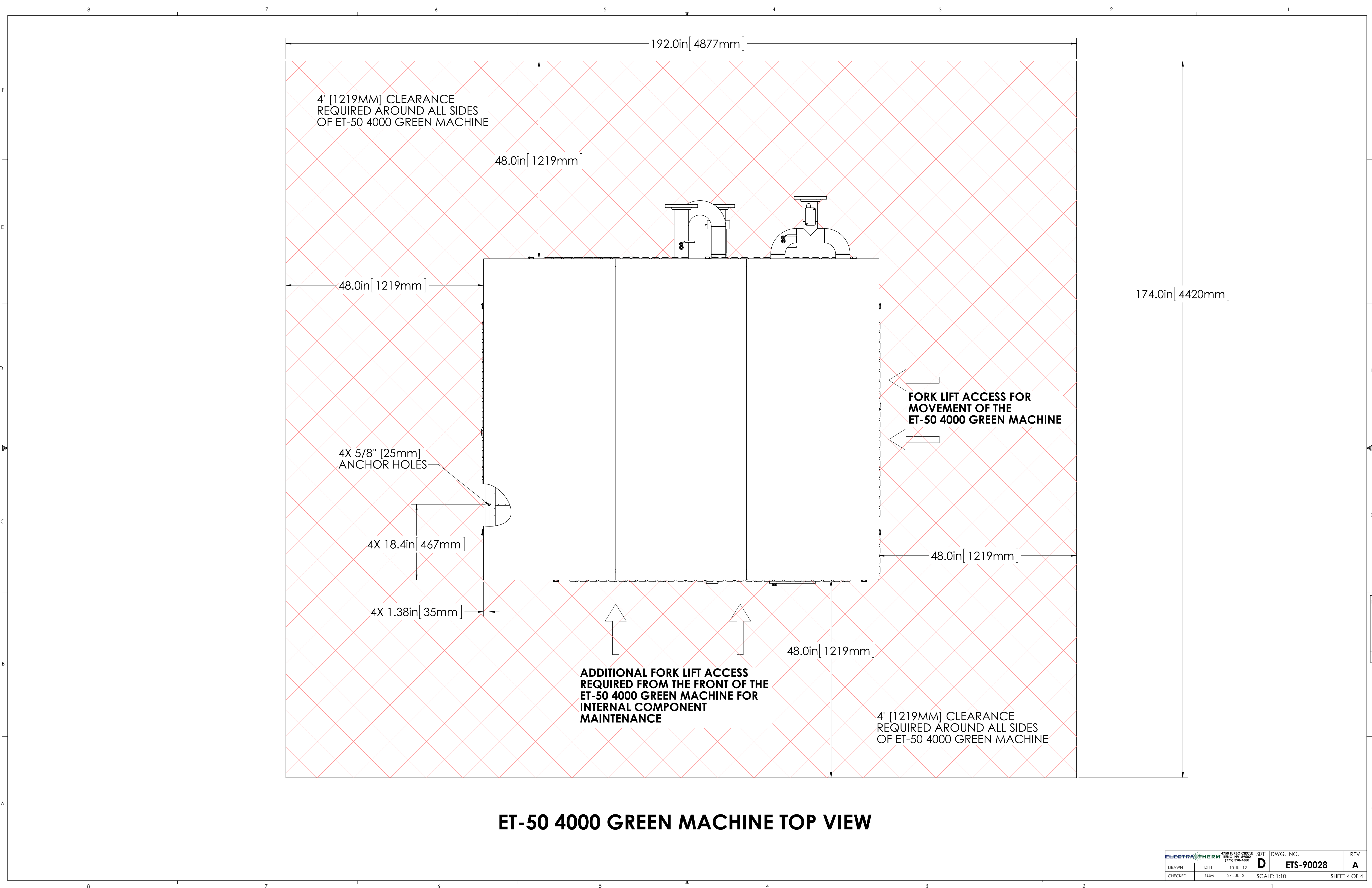
All external manifolds for customer connections
are removed and ship inside the enclosure



ET-50 4000 GREEN MACHINE REAR VIEW

Customer Connections		
	Domestic	Non-Domestic
Cold Water In	3" #150	DN 80 PN16
Cold Water Return	3" #150	DN 80 PN16
Hot Water In	3" #150	DN 80 PN16
Hot Water Return	3" #150	DN 80 PN16

All external manifolds for customer connections are removed and ship inside the enclosure

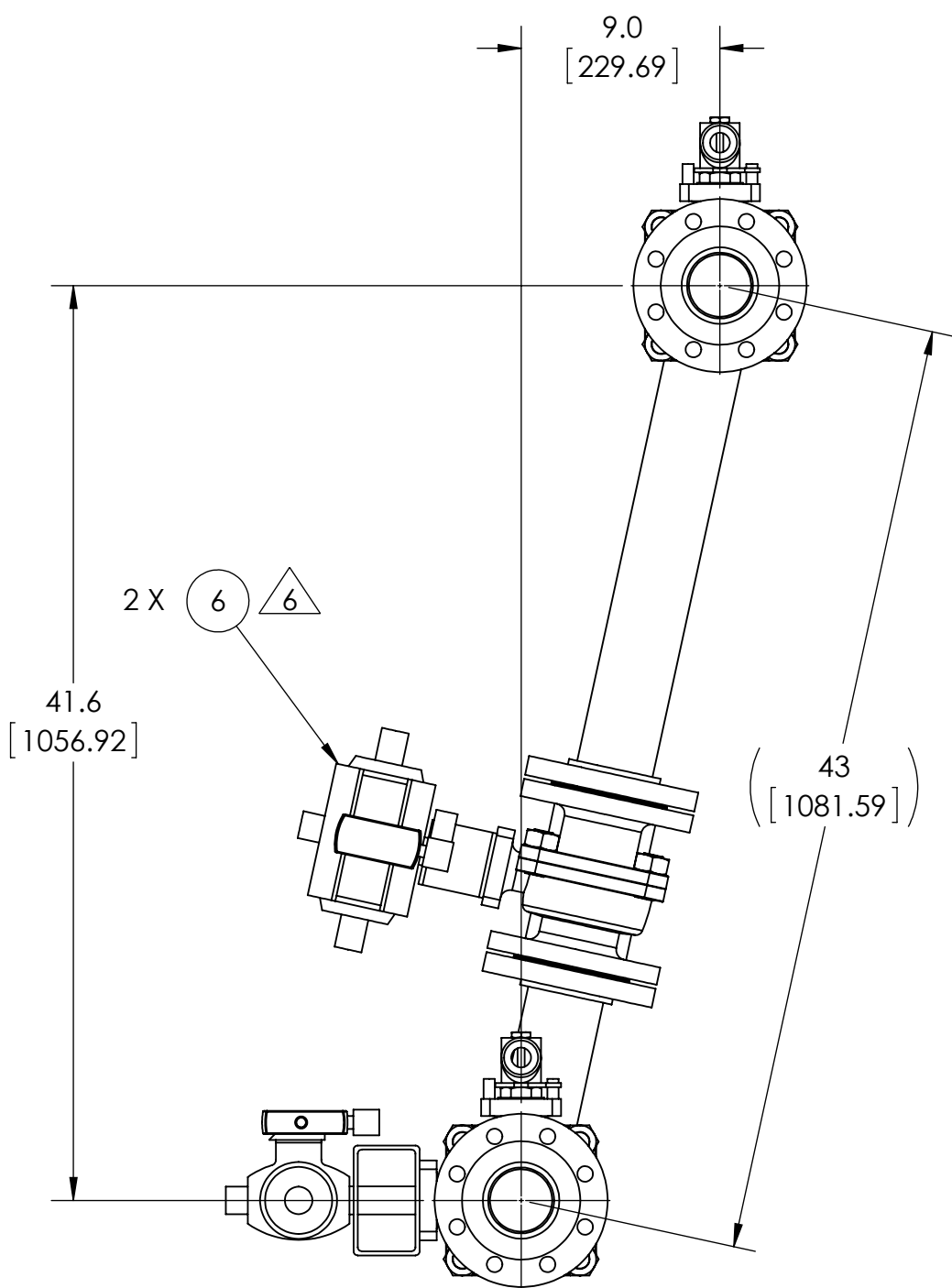
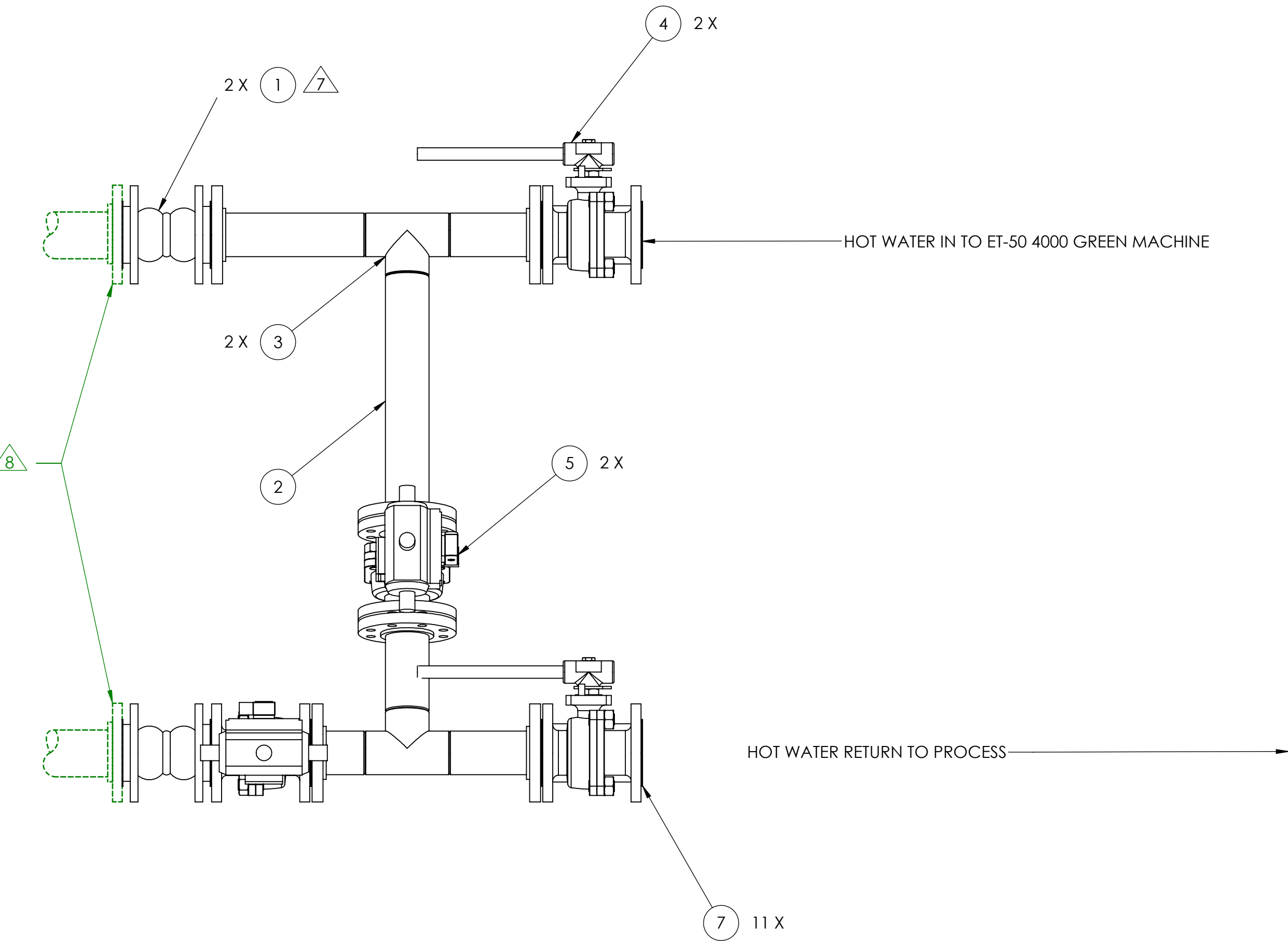


ET-50 4000 GREEN MACHINE TOP VIEW



Drawing #	Drawing Title	# pages
ETS-90016	Detail, Bypass, Hot Water	1

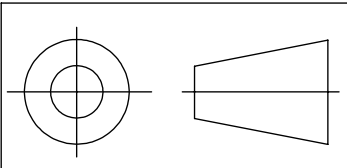
REVISIONS				
REV.	ECN	DESCRIPTION	DATE	APPROVED
A	100145	REVIEW DRAFT	22 DEC 11	TEB
B	100145	PRODUCTION RELEASE	10 JAN 12	TEB



GENERAL NOTES:

- ALL DIMENSIONS ARE FOR REFERENCE ONLY
DIMENSIONS ARE INDICATED IN INCHES [MILLIMETERS]
 - MATERIALS FOR PIPE AND PIPE FITTINGS TO BE CARBON STEEL, 3" SCH 40 FOR DOMESTIC MACHINES, DN 80 FOR NON-DOMESTIC
ALL BOLTS OR STUDS, WASHERS, AND NUTS TO BE APPROPRIATE FOR THE FLANGES AND VALVES CHOSEN
 - MATERIALS, FABRICATION METHODS, AND PROCEDURES SHALL COMPLY WITH ASME B31.3 PROCESS PIPING CODE
DESIGN PRESSURE = 145 PSI [10.0 BAR]
DESIGN TEMPERATURE = 240 °F [116 °C]
 - ALL PIPING ASSEMBLIES TO BE PROPERLY SUPPORTED, SUPPORTS TO BE ENGINEERED AND FABRICATED BY THE CUSTOMER
 - ALL INTERNAL WELDS AND PASSAGES SHALL BE FREE OF ANY CONTAMINATES AND LOOSE MATERIALS, FINAL ASSEMBLY SHALL BE CLEANED USING NON ABRASIVE MATERIALS
- 6 MOTIVE FORCE FOR VALVE ACTUATION TO BE SUPPLIED BY CUSTOMER (AIR OR ELECTRIC), DRY CONTACTS FOR VALVE SIGNAL ARE LOCATED IN THE CUSTOMER INTERFACE PANEL (SEE ELECTRATHERM DRAWING ETS-90020)
- 7 ET-50 4000 GREEN MACHINE HEAT EXCHANGER FLANGES CAN NOT TAKE ANY FLANGE LOADS, PIPE SUPPORTS AND THERMAL EXPANSION MUST BE DESIGNED IN BY DEALER OR CUSTOMER, BELLOWS STYLE EXPANSION JOINTS RECOMMENDED
- 8 ET-50 4000 GREEN MACHINE SHIPS WITH ASME 3" CLASS 150 FLANGES FOR DOMESTIC MACHINES, DN 80 PN16 FOR NON-DOMESTIC MACHINES

ITEM NO.	DESCRIPTION				COMMENTS				QTY.
1	EXPANSION JOINT				SEE NOTE 7				2
2	PIPE 3" SCH 40, OR DN80				SEE NOTE 2, 3				6
3	TEE 3" SCH 40, OR DN80				SEE NOTE 2, 3				2
4	FLANGED MANUAL BALL VALVE				VALVE TO BE FULL PORT AND HAVE PTFE SEALS				2
5	FLAGNED AUTOMATIC BALL VALVE				VALVE TO BE FULL PORT AND HAVE PTFE SEALS				2
6	VALVE ACTUATOR				PNEUMATIC OR ELECTRIC ACTUATION, SEE NOTE 6				2
7	Gasket, Ring, BunaN, Carbon				OR AS APPROPRIATE FOR VALVE				11
				UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS TOLERANCES: ANGULAR: MACH ± .5° BOND ± 1° 2 PLACE DECIMAL ± 0.3 3 PLACE DECIMAL ± 0.80		DRAWN TEB 22DEC11		NAME TEB DATE 22DEC11	
				INTERPRET GEOMETRIC TOLERANCING PER: ANSI Y14.5M-1988		CHECKED ENG APPR. MFG APPR.		TITLE: 4750 TURBO CIRCLE RENO, NV 89502 (775) 398-4680	
				MATERIAL: NOTED		Q.A.		Hot H2O Bypass Details	
				COMMENTS:					
NEXT ASSY		USED ON		FINISH N/A				SIZE D	DWG. NO. ETS-90016
APPLICATION								REV B	
						SCALE: 1:8		SHEET 1 OF 1	



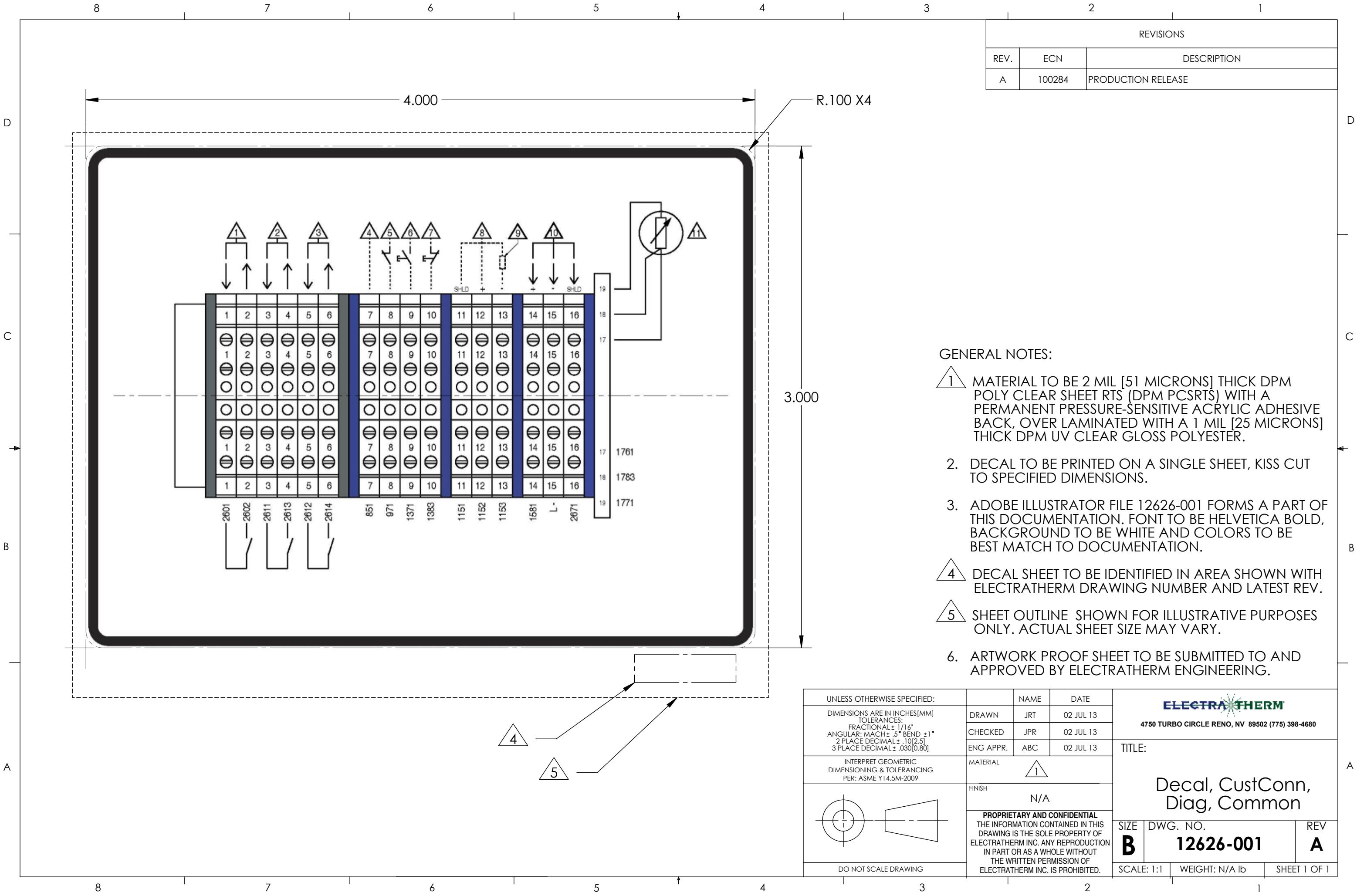
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Drawing #	Drawing Title	# pages
ETS-90018	Diagram, 1-Line, Intrcnct, Water Cooled	1

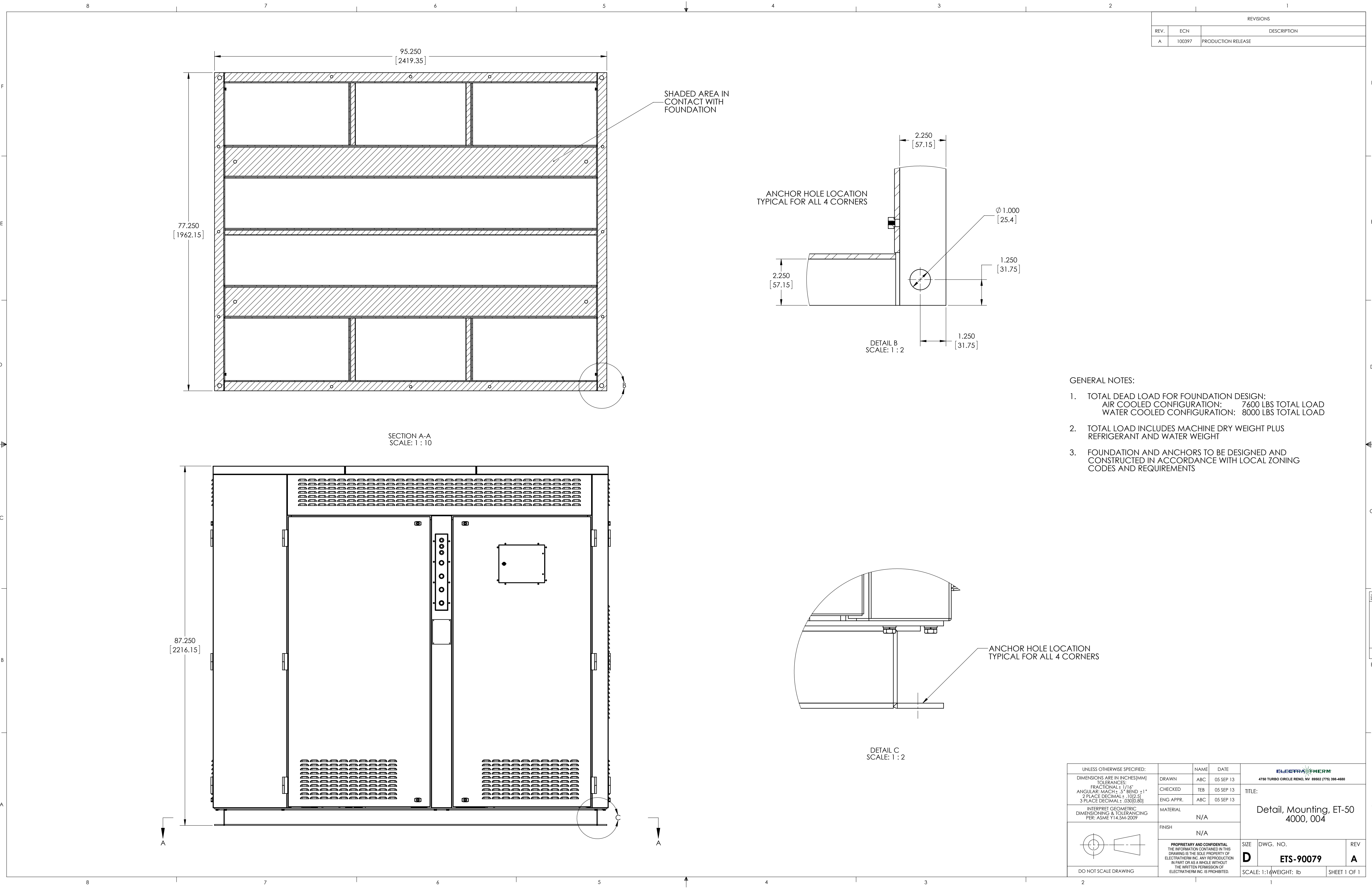


Drawing #	Drawing Title	# pages
ETS-90027	Diagram, Trmnl Strip, Interface, ET-50-4000	2





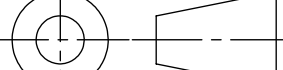
Drawing #	Drawing Title	# pages
ETS-90079	Detail, Mounting, ET-50-4000	1



REVISIONS		
REV.	ECN	DESCRIPTION
A	100397	PRODUCTION RELEASE

GENERAL NOTES:

- TOTAL DEAD LOAD FOR FOUNDATION DESIGN:
AIR COOLED CONFIGURATION: 7600 LBS TOTAL LOAD
WATER COOLED CONFIGURATION: 8000 LBS TOTAL LOAD
- TOTAL LOAD INCLUDES MACHINE DRY WEIGHT PLUS REFRIGERANT AND WATER WEIGHT
- FOUNDATION AND ANCHORS TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL ZONING CODES AND REQUIREMENTS

UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 4750 TURBO CIRCLE RENO, NV 89502 (775) 398-4680	
DIMENSIONS ARE IN INCHES[MM] TOLERANCES: FRACTIONAL ± 1/16" ANGULAR: MACH ± .5° BEND ± 1° 2 PLACE DECIMAL ± .10 [2.5] 3 PLACE DECIMAL ± .030 [0.80]		DRAWN	ABC	05 SEP 13	TITLE: Detail, Mounting, ET-50 4000, 004
		CHECKED	TEB	05 SEP 13	
		ENG APPR.	ABC	05 SEP 13	
INTERPRET GEOMETRIC DIMENSIONING & TOLERANCING PER: ASME Y14.5M-2009		MATERIAL	N/A		
		FINISH	N/A		
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		SIZE	DWG. NO.	REV	
DO NOT SCALE DRAWING			D	ETS-90079	A
		SCALE: 1:1	WEIGHT: 1b	SHEET 1 OF 1	